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EXAMINER	
ELLIOTT IV, BENJAMIN H	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/596,641	DENECHEAU ET AL.	
	Examiner	Art Unit	
	BENJAMIN ELLIOTT	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23,24,27,28,30,31,38-40* is/are rejected.

7)☒ Claim(s) *25,26,29 and 32-37* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/20/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-22 have been canceled. Claims 23-40 have been examined and are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 23, 30, 31, and 38-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regards to claims 23 and 38-40, in the context of the claim language, a "virtual ring datagram" is determined to be either a "token" or a "virtual ring datagram. It is unclear what applicant means by virtual ring datagram. The act of determining if the received datagram is a token or a "virtual ring diagram" creates confusion as to the definition of the "virtual ring datagram" that has been sent. For purposes of searching prior art, Examiner has taken the phrase **determining if the received datagram is a virtual ring datagram** to mean a packet other than a token message.

With regards to claims 30 and 31, the term "...a header comprising..." is unclear. The claims point to three headers only one formally defined as a "virtual ring header".

The lack of distinctness in the claim language pointing to the use of two headers is regarded as indefinite.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 23, 24, 27, 28, and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Publication EP 0561381 A2 to Port et al. (hereinafter "Port") and further in view of US Patent 4,538,147 to Grow (hereinafter "Grow").

As per Claim 23, and 38-39 Port discloses **a method, a computer network, and an article to use in a node within a network comprising a transport layer protocol providing end to end data transfer** (Col. 24, lines 36-39. The invention may be embedded into a custom transport protocol layer such as TCP/IP.), **for multicasting datagrams on a virtual ring** (Col. 6, lines 23-28. In the multicasting system of the invention, messages are transmitted to a group belonging to the ring network.), **each node on the virtual ring being logically connected according to the network transport layer protocol to an upstream neighbor node and a downstream neighbor node through virtual connections** (Figure 1; Col. 7, lines 38-50. Host processors 111-118 are connected to nodes 101-108, respectively, forming a ring that sends data in a unidirectional communications path.) **comprising:**
sending a virtual ring datagram to the downstream neighbor node on the virtual ring (Col. 25, lines 3-9. Each node sends messages to a downstream node and receives from an upstream node. These nodes are interconnected to form a ring.);

identifying the received datagram upon receipt of the datagram (Col. 14, lines 15-26. Normal packets are sent from a first process to a second process. A node receiving a packet determines if it is the source of the packet.);

forwarding the token to the downstream neighbor node on the identified virtual ring if the token is valid (Col. 26, lines 6-11. One type of message that is sent through the nodes is an INIT TOKEN message that initializes, or sets, the ring network. Col. 26, lines 24-26. Based on the originator of the message, the INIT TOKEN message is transmitted to the next node downstream until it returns to the originator of the message.);

forwarding said virtual ring datagram to the downstream neighbor node on the identified virtual ring if the received virtual ring datagram has not been locally originated (Figure 6b; Col. 19, lines 7-11. If the receiving node determines the packet originated from a different node, the packet is passed on through the network.);

and removing the virtual ring datagram from the virtual ring if the received virtual ring datagram has been locally originated (Figure 6b; Col. 19, lines 7-9, lines 11-16. The OWNERSHIP bit in the packet is checked, and if it is not set, the bit, 0, is reset and the packet is deleted.).

For Claim 39, Port discloses **a computer readable storage medium in said network** (Col. 24, lines 36-39. The invention may be embedded into an application program.).

Port is silent on **determining if the received datagram is a token** and **determining if the received datagram is a virtual ring datagram**.

Grow discloses bandwidth allocation in a token controlled loop communications network, from Figure 5 and Col.14, lines 35-38, wherein the ring logic is incorporated in each unit of the ring network of Figure 1, that the frame synchronization logic determines whether the frame is a data frame or a token frame. If the received frame is a data frame, the frame is either deleted or continued through the ring architecture, depending on the source of the data frame having received or having not received the data frame (Grow; Col. 16, lines 17-29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Port to combine the first embodiment describing the handling of normal packets and the alternate embodiment for handling token packets and to include **determining if the received datagram is a token** and **determining if the received datagram is a virtual ring datagram** taught by Grow to properly determine when information may be transmitted through the loop. By sending a token through the loop, the load through the loop can be measured which ultimately determines the class of service that can be established (Grow; Col. 6, lines 11-17).

As per Claim 24, Port discloses **the method of claim 23, wherein the step of determining if the received datagram is a token includes identifying the virtual ring and checking that the token has been sent by the upstream neighbor node on the identified virtual ring** (Col. 26, lines 24-2. If the node that received the INIT TOKEN message was not the originator, it sends it to the next node downstream.);

and the step of determining if the received datagram is a virtual ring datagram includes identifying the virtual ring when a virtual datagram is received and checking that the virtual ring datagram has been sent by the upstream neighbor node on the identified virtual ring (Col. 25, lines 3-9. Each node sends messages to a downstream node and receives from an upstream node. These nodes are interconnected to form a ring.).

Port is silent on **determining if the received datagram is a token** and **determining if the received datagram is a virtual ring datagram**.

However, Grow, in the disclosed invention on bandwidth allocation in a token controlled loop communications network teaches, from Figure 5 and Col.14, lines 35-38 wherein the ring logic is incorporated in each unit of the ring network of Figure 1, that the frame synchronization logic determines whether the frame is a data frame or a token frame. And, like the Port document, if the received frame is a data frame, the frame is either deleted or continued through the ring architecture, depending on the source of the data frame having received or having not received the data frame (Col. 16, lines 17-29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Port to combine the first embodiment describing the handling of normal packets and the alternate embodiment for handling token packets and to include **determining if the received datagram is a token** and **determining if the received datagram is a virtual ring datagram** taught by Grow to properly determine when information may be transmitted through the loop. By sending a

token through the loop, the load through the loop can be measured which ultimately determines the class of service that can be established (Col. 6, lines 11-17).

As per Claim 27, Port discloses **the method of claim 23, wherein the step of forwarding the token to the downstream neighbor node on the identified virtual ring comprises: starting a timer and waiting for a return of the token** (Col. 26, lines 30-34. The originating node allows for an allotted time for the token to return.); **and executing a recovery procedure when the timer expires, wherein receipt of a token comprises stopping the timer** (Col. 26, lines 34-36. The originating node retransmits the token if not received in the allotted time. Col. 26, lines 37-42. The originating node considers initialization of the network to be complete once the token returns to it.).

As per Claim 28, Port discloses **the method of claim 23, wherein a node is selected from a group consisting of:**
a computer system routing datagrams in the network, and a computer system exchanging datagrams on the network (Col. 8, lines 22-26. A packet is placed on a ring where it follows one of several paths until it reaches the destination node. Col. 26, lines 8-14. An INIT TOKEN message is exchanged between nodes to set-up the ring network.).

As per Claim 40, Port discloses **a method to use in a node within a network comprising a transport layer protocol providing end to end data transfer** (Col. 24, lines 36-39. The invention may be embedded into a custom transport protocol layer

such as TCP/IP.), **for multicasting datagrams on a virtual ring** (Col. 6, lines 23-28. In the multicasting system of the invention, messages are transmitted to a group belonging to the ring network.), **each node on the virtual ring being logically connected according to the network transport layer protocol to an upstream neighbor node and a downstream neighbor node through virtual connections** (Figure 1; Col. 7, lines 38-50. Host processors 111-118 are connected to nodes 101-108, respectively, forming a ring that sends data in a unidirectional communications path.), **comprising:**

sending a virtual ring datagram to the downstream neighbor node on the virtual ring (Col. 25, lines 3-9. Each node sends messages to a downstream node and receives from an upstream node. These nodes are interconnected to form a ring.);

said virtual ring datagram comprising:

a virtual ring identifier (Col. 8, lines 5-8. The packet contains a 16-bit socket identifier or SOCKET ID.);

means for identifying the node originator of the virtual ring datagram (Col. 8, lines 10-12. An 8-bit source loop address identifies the node from which the packet was sent.);

and data (Col. 8, lines 12-13. A TYPE field details if the packet has data.);

identifying the received datagram upon receipt of the datagram (Col. 14, lines 15-26. Normal packets are sent from a first process to a second process. A node receiving a packet determines if it is the source of the packet.);

determining if the received datagram is a token, comprising:

identifying the virtual ring (Col. 26, lines 8-11. An INIT TOKEN message sent through the ring network to anode after the nodes have established their upstream and downstream positions.);

checking whether the token is valid (Col. 26, lines 19-29. Validity of the token message is verified by a node if the node determines it is the source of the token message. If this is the case, the node deletes the token.);

and forwarding the token to the downstream neighbor node on the identified virtual ring if the token is valid (Col. 26, lines 19-29. If the node is not the source, it transmits the token to the next downstream node.);

determining if the received datagram is a virtual ring datagram, comprising:

identifying the virtual ring (Col. 14, lines 15-19. Normal packets are transmitted between processes of one node to another process of another node.);

and checking the node originator of the received virtual ring datagram (Col. 14, lines 23-27; Figure 5a. Step 502 of Figure 5a determines whether or not a node is the source or destination of packet.);

determining if the received virtual ring datagram has not been locally originated, comprising:

processing data comprised in said virtual ring datagram and forwarding said virtual ring datagram to the downstream neighbor node on the identified virtual ring (Col. 16, lines 19-29; Figure 5a. If the node is not the source or destination of the packet, the packet is passed through the FIFO and then output state machine, and finally back onto the network. Col. 10, lines 44-54. With regards to the pass through

FIFO memory (first in first out), words of packets are stored the packet is passed back out onto the ring.);

and determining if the received virtual ring datagram has been locally originated, comprising:

removing the virtual ring datagram from the virtual ring (Col. 16, lines 29-34. If the node determines it is the source of the packet, the packet is deleted.).

Port is silent on **determining if the received datagram is a token** and **determining if the received datagram is a virtual ring datagram**.

Grow discloses bandwidth allocation in a token controlled loop communications network, from Figure 5 and Col.14, lines 35-38, wherein the ring logic is incorporated in each unit of the ring network of Figure 1, that the frame synchronization logic determines whether the frame is a data frame or a token frame. If the received frame is a data frame, the frame is either deleted or continued through the ring architecture, depending on the source of the data frame having received or having not received the data frame (Grow; Col. 16, lines 17-29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Port to combine the first embodiment describing the handling of normal packets and the alternate embodiment for handling token packets and to include **determining if the received datagram is a token** and **determining if the received datagram is a virtual ring datagram** taught by Grow to properly determine when information may be transmitted through the loop. By sending a

token through the loop, the load through the loop can be measured which ultimately determines the class of service that can be established (Grow; Col. 6, lines 11-17).

Allowable Subject Matter

8. Claims 25, 26, and 29, and 32-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Prior art made of record not relied upon:

US Patent 5,253,252 to Tobol describes a token device for scheduling including information on the format of a token.

US Patent 4,736,368 to Szczepanek describes a priority token in token ring network.

US Patent 5,553,073 to Barraclough et al. describes a token ring network and configuration data therein.

US Patent 6,154,462 to Coden describes a method for establishing ring network and tracking devices based on addresses and port numbers/assignments.

US Patent 5,107,490 to Wilson et al. describes a ring communication network that utilizes collision protocols.

US Patent 5,053,946 to Jain describes a ring network that utilizes token requests to configure the network.

US Patent 5,490,145 to Tanabe et al. describes a ring network that first receives a token then is able to transmit packets.

US Patent 6,460,101 B1 to Arimilli describes a network utilizing a token manager bus managers to set-up global operation networks.

US Patent 4,860,284 to Brown et al. describes a method to locate lost token signals in network.

US Patent 7,181,547 B1 to Millet describes a method to identify nodes in a network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN ELLIOTT whose telephone number is (571)270-7163. The examiner can normally be reached on Monday thru Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571)272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BL/
Examiner, Art Unit 2419

/Hassan Kizou/
Supervisory Patent Examiner, Art Unit 2419